

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.



Docket: T2211-8861US01

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Marcel DAYAN

Serial No.: 10/725,580

Filed: December 3, 2003

For: Determining a Result of an Electronic Game

: Examiner:

: Group Art Unit:

:

:

:

:

McLean, Virginia

February 13, 2004

**SUBMISSION OF CERTIFIED COPY OF  
PRIORITY APPLICATION  
IN SUPPORT OF CLAIM FOR PRIORITY**

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In the matter of the above-identified application, a claim for priority has previously been made under the provisions of 35 U.S.C. 119 for the benefit of the filing date of the corresponding Australian Application No. 2002953092 filed 4 December 2002, which is referred to in the Declaration of the present case.

A certified copy of said Australian application is filed herewith in support of said claim.

Respectfully submitted,

MILES & STOCKBRIDGE P.C.

By:   
John C. Kerins  
Reg. No.32,421

1751 Pinnacle Drive, Suite 500  
McLean, VA 22102-3833  
Telephone: (703) 610-8649  
#9175802v1



**Patent Office  
Canberra**

I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002953092 for a patent by STRUCTURED DATA SYSTEMS PTY LTD as filed on 04 December 2002.

WITNESS my hand this  
Second day of December 2003

**JULIE BILLINGSLEY  
TEAM LEADER EXAMINATION  
SUPPORT AND SALES**

AUSTRALIA

Patents Act 1990

**PROVISIONAL SPECIFICATION**

**Applicant:**

STRUCTURED DATA SYSTEMS PTY LTD

**Invention Title:**

WEIGHTED BALL MACHINE

The invention is described in the following statement:

DETERMINING A RESULT OF AN ELECTRONIC GAME

Field of the Invention

5                   The present invention relates to a method and apparatus for determining a result of an electronic game in order to allow fixed odds betting on the result.

Background to the Invention

10                  We have previously developed an electronic game which allows fixed odds betting on the outcome of the game.

15                  The game is a race and players can bet on the participants in the race. The race is typically a simulated horse race and players bet on the simulated horses. To provide a variety of different bets, different probabilities of winning are allocated to horses. A 20 random number generator is used to determine the outcome. Typically, the random number generator produces a value between zero and one, and portions of the range (eg. 0.01-0.20, 0.21-0.35, etc) are assigned to different horses. Thus, the fixed odds which are offered to players of the 25 game are based on the relative chances of electronic horses winning the electronic horse race. To determine the winning horse, the random number generator is run and the value is compared to the allocated portions of the range to determine which horse will win.

30                  In order to allow betting on the second and third placed horses, the game engine is configured to determine second and third positions. To do so, the game engine is configured to re-adjust the portions of the range of 35 possible random number generator values which are allocated to individual horses to offer each horse is drawn because the horse that filled the previous place

should not be selected again. This involves proportionately redistributing the portions of selected horses to the remaining horses.

5                 Once the results have been determined, the game engine simulates an electronic horse race in which the horses determined using the random number generator to finish in first, second and third positions finish in this order in a simulated race conducted over, for example, 30  
10 seconds.

15                 While this game has proved popular and effective in its current form, we have subsequently realised that the mechanism which is used to determine the result, (ie, the random number generator), is either not an allowable mechanism in some jurisdictions or causes the game to be subject to a more complicated (and hence, costly) regulatory scheme.

20                 At the same time, we have determined that such jurisdictions often have less strict regulation of games which use mechanical ball draw machines as these games are considered to be less susceptible to tampering. Hitherto, mechanical ball draw machines have been used to draw  
25 numbers from a set of numbers where all the numbers are different in order to determine a result of a game where the result is solely related to the numbers which are drawn.

30                 The present invention utilises a novelly configured mechanical ball draw device in order to allow fixed odds betting on an electronic game.

35                 Summary of the Invention

               The present invention provides a method of determining a result of an electronic game in order to

allow fixed odds betting on the result, the method involving:

5 providing a mechanical ball draw machine configured to draw one ball at a time from a set of balls and to identify the drawn ball;

10 providing a set of balls to be used by said mechanical ball machine, the set of balls consisting of a plurality of subsets of one or more balls, at least some of the subsets having different numbers of balls and each ball being identifiable by said mechanical ball machine as belonging to a subset, whereby the relative numbers of balls in the subsets determine the likelihood of a ball from a subset being drawn thus allowing fixed odds betting to be carried out on a result determined on the basis of 15 subset identity; and

20 drawing and identifying at least one ball using said mechanical ball machine and providing the identity of the subset to which the drawn ball belongs to a game controlling device configured to determine the result of said electronic game, whereby said game controlling device can determine at least part of the result of the electronic game from the identity of the subset.

25 Preferably, said game controlling device needs to be provided with the identity of three different subsets in order to determine the result, and the method involves drawing balls from said ball machine until the game controlling device has received three different subset identities.

30

35 Preferably, said electronic game involves a race having a plurality of participants each of which are allocated one of said subsets of balls, and wherein first position the race is allocated to the participant which corresponds to the subset identity provided to the game controlling device.

Where, second and third positions form part of the result, second and third positions are allocated to the participant corresponding to the second and third distinct identities provided to the game controller. Thus, any repeat identities are discarded.

5 The method may include providing two mechanical ball machines, designating one as ball, a primary mechanical machine and one as a secondary mechanical ball machine, and drawing from both mechanical ball machines substantially simultaneously and using said primary mechanical ball machine to provide the result unless if using the secondary mechanical ball machine if the primary mechanical ball machine fails.

10 15 Alternatively, where the result requires multiple subset identities, the method may involve drawing from both mechanical ball machines and using the identities provided by whichever mechanical ball machine produces the required number of different subset identities first as 20 the basis for determining the result. Additional ball draw machines could be used to get an even faster result.

25 The present invention also provides apparatus for determining a result of an electronic game in order to allow fixed odds betting on the result, the apparatus having:

30 a mechanical ball draw machine configured to draw one ball at a time from a set of balls and to identify the drawn ball;

35 a set of balls to be used by said mechanical ball machine, the set of balls consisting of a plurality of subsets of one or more balls, at least some of the subsets having different numbers of balls, each ball being identifiable by said mechanical ball machine as belonging to a subset, whereby the relative numbers of balls in the subsets determine the likelihood of a ball from a subset

being drawn thus allowing fixed odds betting to be carried out on a result determined on the basis of subset identity; and

5 a game controlling device configured to determine at least part of the result of said electronic game, from the identity of a subset provided to said game controlling device by said mechanical ball machine drawing and identifying at least one ball.

10 Brief Description of the Drawings

A preferred embodiment of the invention will now be described in relation to the accompanying drawings in which:

15 Figure 1 is a schematic diagram of the system of the preferred embodiment;

Figure 2 shows a mechanical ball draw machine apparatus suitable for use in the preferred embodiment; and

20 Figure 3 is a screen shot of an electronic game the preferred embodiment.

Description of the Preferred Embodiment

25 Figure 1 is a schematic diagram of the apparatus for determining the result of an electronic game of the preferred embodiment. In the preferred embodiment, the electronic game is a harness horse racing game where players bet or wager on the result of the electronic game.

30 The individual horses in the electronic game provide a plurality of participants which can be bet upon. Players of the game can place fixed odds bets on the horses in the same manner as fixed odds bets can be placed on conventional horse races. To stimulate customer interest in such a game, it is necessary to allow players to bet at 35 a variety of different odds.

In the preferred embodiment, the electronic game is controlled by software running on a host computer 1 which provides a game controlling device for determining the result of the game.

5 To obtain the result in a manner which allows fixed odds betting, the host computer 1 is connected to two mechanical ball draw machines 3a, 3b. The second 10 mechanical ball draw machine 3b acts as a back up to the first mechanical ball draw machine 3a, should there be a failure of the first ball draw machine 3a.

15 The general construction of a ball draw machine 3 is indicated in Figure 3. Each ball draw machine 3 consists of glass bowl 10 mounted on a base 12. A blower 13 is connected by tube 14 to a hole in the bottom of the glass bowl 10. When actuated, the blower 13 blows balls contained within the glass bowl until one is received within the ball display unit 11 which is configured to 20 identify a ball as it is blown into a holding position and then to rotate in order to receive a further ball. Operation of the mechanical ball draw machine is under 25 control of control unit 16. The control unit 16 actuates the blower 13 when necessary and also causes the ball display unit 11 to rotate. The control unit 16 also receives signals via cable 15 advising it of the identity of the balls drawn by the ball display unit 11. The control unit is in communication with, and is itself controlled by, the host computer 1.

30 In the preferred embodiment, each of the balls has a barcode on it which allows the ball to be read by the ball display unit 11.

35 The ball machine apparatus also includes a universal power supply 17 for ensuring the ball machine does not fail and a monitor 18 connected to a camera

mounted in the ball display unit which allows visual confirmation of the ball identified by the ball display unit 11.

5 In the preferred embodiment, there are 12 different participants in the horse race. To provide different odds for the different horses, a set of balls is used in the mechanical ball draw machine which consists of a plurality of subsets of balls of different numbers.

10 Each subset is associated with one of the horses. All of the numbers in each subset of balls are identifiable as belonging to a particular subset. Accordingly, when a ball is drawn the identity of the subset to which it belongs can be used to determine the horse and hence the result. For example, all of the balls belonging to horse 15 number one are numbered with the numeral one. Although other techniques can be used to allocate the ball to a particular subset.

20 We have found for a 12 participant horse race, a particularly suitable distribution of balls is shown in Table 1.

Table 1  
SET HOUSE RETURN = 20.00%

HORSE NUMBER	NUMBER of Balls	BETTING MARKET	Actual WIN ODDS	Calculated		Actual WIN Pay	Actual House Return	Actual ODDS Return	Actual WIN Zero Return
				WIN	1%				
1	20	25.00%	3.00	\$4.00	\$4.00	\$4.00	20.00%	3.00	\$5.00
2	15	18.75%	4.33	\$5.33	\$5.30	\$5.25	21.25%	4.25	\$6.67
3	11	13.75%	6.27	\$7.27	\$7.30	\$7.25	20.25%	6.25	\$9.09
4	10	12.50%	7.00	\$8.00	\$8.00	\$8.00	20.00%	7.00	\$10.00
5	9	11.25%	7.89	\$8.89	\$8.90	\$9.00	19.00%	8.00	\$11.11
6	8	10.00%	9.00	\$10.00	\$10.00	\$10.00	20.00%	9.00	\$12.50
7	7	8.75%	10.43	\$11.43	\$11.40	\$11.50	19.50%	10.50	\$14.29
8	6	7.50%	12.33	\$13.33	\$13.30	\$13.25	20.50%	12.25	\$16.67
9	5	6.25%	15.00	\$16.00	\$16.00	\$16.00	20.00%	15.00	\$20.00
10	4	5.00%	19.00	\$20.00	\$20.00	\$20.00	20.00%	19.00	\$25.00
11	3	3.75%	25.67	\$26.67	\$26.70	\$26.50	20.50%	25.50	\$33.33
12	2	2.50%	39.00	\$40.00	\$40.00	\$40.00	20.00%	39.00	\$50.00
	100	125.00%							

6 In Table 1, the house return is intended to be  
20%. Accordingly, a betting market is set at 125% and  
distributed amongst a number of horses. The distribution  
of the greater numbers of balls for horse number 1 (ie,  
5 twenty balls) means that this horse has a much greater  
chance of winning than, for example, horse number 8 which  
has only six balls of the 100 balls in the ball machine 3.

10 Persons skilled in the art will appreciate that  
using the actual win odds will not always be practical  
because they will require payouts of very small  
denomination coins. Accordingly, slight variations on  
these odds are used. For example, the set of odds shown  
15 in the right hand column of Table 1 presume that 5 cent  
pieces will be available as a reasonably convenient form  
of payment. Accordingly, the actual payment odds give  
slight variations compared to the absolute odds which lead  
to slight variations in the house return. The variations  
in the house return are sufficiently small as to have a  
20 barely noticeable effect on the outcome of betting on  
individual horses.

When it is desired to determine the outcome of  
the game, the ball draw machine is started and balls are  
25 drawn. The subset identity of each drawn ball is provided  
to the control unit which in turn provides it to the host  
computer 1 which in order to allow it to determine the  
result of a game.

30 In a typical horse racing electronic game, the  
result will include the first three horses in order to  
allow players to bet on the first, second and third  
positions as well as combinations of these positions.

35 Persons skilled in the art will appreciate that  
it is possible, indeed quite likely for repeat balls to be  
drawn belonging to a particular horse before obtaining

three discrete or different horses from the ball draw machine. In the preferred embodiment, balls relating to horses which have already been drawn are discarded and the result is determined by the first three different horses 5 which are identified.

Theoretically, with the ball distribution of Table 1, thirty six balls might be drawn before a result was reached. However, it is important, that the result be 10 reached quickly so that the game appears to players to be proceeding at a normal rate. Any stalling in the process is likely to reduce players' confidence in the game. We have determined that the probability of the result being drawn in three balls using the ball distribution of Table 15 1 is 71.4%. The probability of the result being reached inside four balls is 92.7% and the probability of a result being achieved in five balls is 98.2%.

The selling of the game, typically ends 15 20 seconds before the electronic race begins. This period is filled by a simulation of the events preceding the race, for example, the horses walking around a mounting yard and being loaded into a starters barrier. To account for situations where it is necessary to draw a larger number 25 of balls in order to obtain a result, the preferred embodiment provides a wait sequence which gives the host computer an extra 10 seconds to arrive at a result.

Once the result of the game has been determined, 30 the host computer 1 instructs the graphics engine 2 to create the horse race simulation. The graphics engine 2 then causes the simulated horse race to be displayed on displays 5. In the example of Figure 3, the horse determined to win the race 7 which is shown to be trailing 35 the leader, will be caused to move ahead in such a manner that when it crosses the line in front.

In a further improvement on the preferred embodiment, the first and second ball machines are used to draw balls simultaneously and the machine which first produces three different balls is used to provide the results. This increases the rate at which the result is reached. For example, it increases the probability of a result being achieved within three balls to 91.8%.

These and other modifications will be apparent to persons skilled in the art and are considered as falling within the scope of the invention described herein. For example, the number of balls in the ball machine may be varied.

15

Dated this 4th day of December 2002

STRUCTURED DATA SYSTEMS PTY LTD

By their Patent Attorneys

GRIFFITH HACK

20 Fellows Institute of Patent and  
Trade Mark Attorneys of Australia

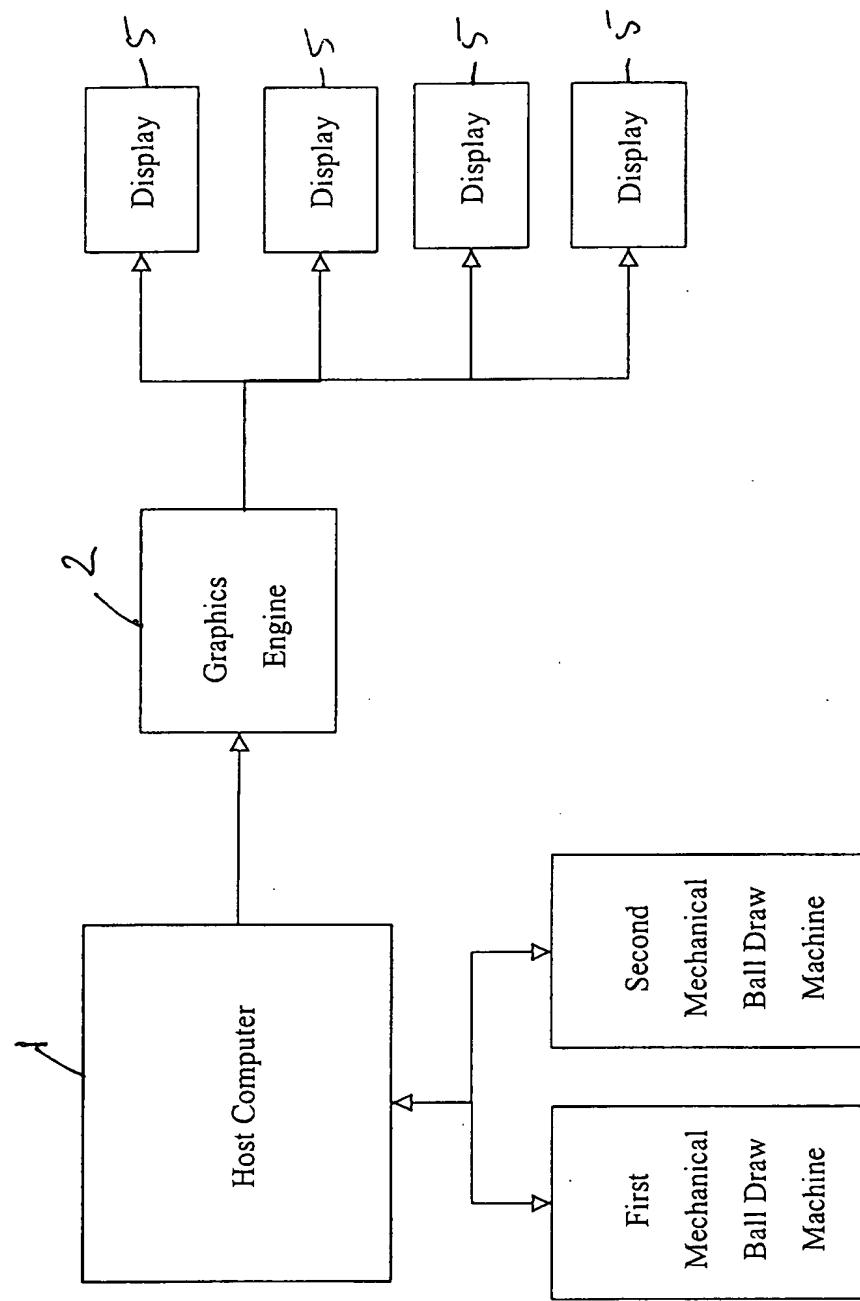


Figure 1  
3a  
3b

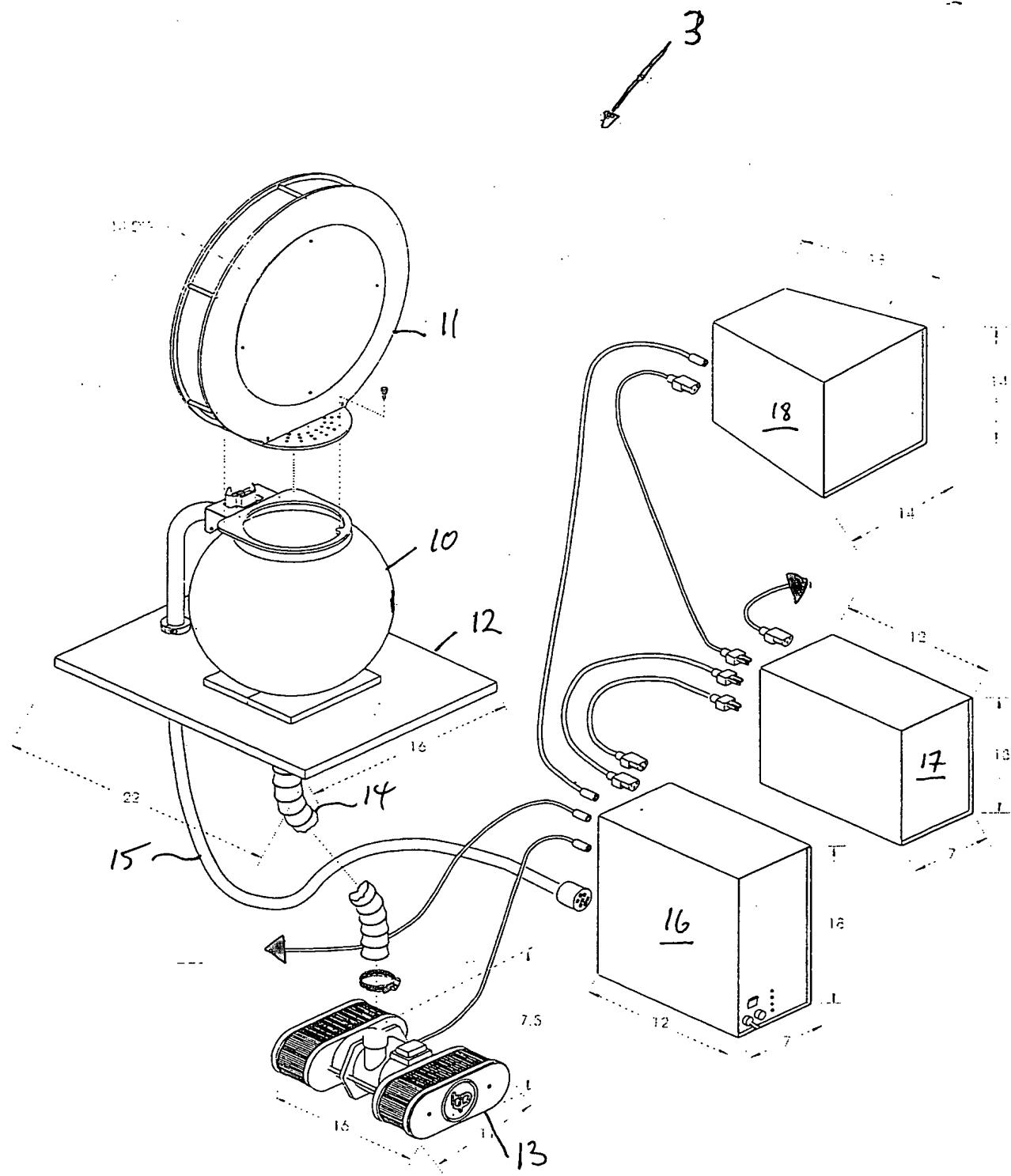


Figure 2

Figure 3

